

***Zophoessa ocellata* (POUJADE, 1885) and its allies in China with the description of two new species**

A review of the genera *Lethe*, *Zophoessa* and *Neope* in China – 1

(Lepidoptera, Satyrinae)

by

HAO HUANG, CHUN-SHENG WU & FENG YUAN

Abstract: *Zophoessa ocellata* and its allies in China are reviewed, including the following species: *Z. ocellata*, *Z. nigrifascia*, *Z. baileyi*, *Z. neofasciata*, *Z. wui* and *Z. lisuae*. In addition, two new species, *Zophoessa baoshana* and *Zophoessa zhangji*, are described from W. Yunnan and W. Sichuan, respectively.

In this series of papers, we want to review all the Chinese taxa of the Satyrinae genera *Lethe*, *Zophoessa* and *Neope*. At present our aim is not to establish the natural groups of these genera nor to make a phylogenetic analysis, because of the lack of material especially concerning female specimens. We temporarily follow DE LESSE (1957) in the higher classification of these three genera, which is chiefly based upon the comparison of male genitalia and wing-markings and currently adopted by most modern students. However, since most species have not been examined in their female genitalia and other morphological structures, a reasonable separation of these genera into monophyletic groups is still untouched and an analysis of phylogenetic relationships is needed in future.

Within the *Zophoessa sura*-group (sensu DE LESSE, 1957), the following species seem to constitute a morphological section, corresponding to the revocatory genus *Kerrata* MOORE, 1890 (genotype: *tristigmata*), characterized by the black and sharply defined male brand on forewing upperside, the rather smooth discal band on forewing underside and more or less swollen uncus in male genitalia: *Z. nigrifascia* (LEECH, 1890), *Z. ocellata* (POUJADE, 1885), *Z. tristigmata* (ELWES, 1887) (= *lyncus* DE NICEVILLE, 1897), *Z. baileyi* (SOUTH, 1913), *Z. neofasciata* (LEE, 1985), *Z. wui* (HUANG, 1999), and *Z. lisuae* (HUANG, 2002). Such a section is by no means a natural group, but is used for convenience to group these close species together by selected external features. In this paper, all the Chinese species in this section are reviewed and two new species are described.

The following abbreviations are used in this paper:

IZAS – Institute of Zoology, Chinese Academy of Science;

QVTC – Qingdao Vocational and Technical College;

TL – Type Locality.

Systematic account of Chinese species in the *ocellata*-section

1) *Zophoessa ocellata* (POUJADE, 1885) (col. pl. XII, fig. 1)

Lethe ocellata POUJADE, 1885 – Ann. Soc. Ent. Fr.: 10 (Sichuan: Mou-pin); LEECH, 1892 – Butt. China, Japan, and Corea: 34–35 (Sichuan: Omei-shan, Pu-tsu-fong); SEITZ, 1909 – Macro. World 1: 85, plate 31c (West China); DRAESEKE, 1925 – D. Ent. Z. Iris 39: 52 (Sichuan: Wa-ssu-kou); LEE & ZHU, 1992: 93–94, fig. 17; D'ABRERA, 1993 – Butt. Holarctic region 3: 122, figs (♂, ♀) (Sichuan: Omei-shan).

Lethe simulans LEECH, 1890 – Entomologist 24, suppl.: 23 (Sichuan: Omei-shan, Pu-tsu-fong).

Zophoessa ocellata: DE LESSE, 1957 – Ann. Soc. Ent. France 125: 78; HUANG, 2002 – Atalanta 33 (3/4): 365, plate 21, figs. 4, 8 (Sichuan).

Material examined: 2 ♂♂ (QVTC), LF 27.5–28 mm, Mi-yi, Pan-zhi-hua, S. Sichuan. leg. YANG CHANG-AN; 1 ♂ (IZAS), LF 29 mm, Omei-shan, W. Sichuan, 1780–2200 m, August 1963, leg. LEE CHUAN-LONG.

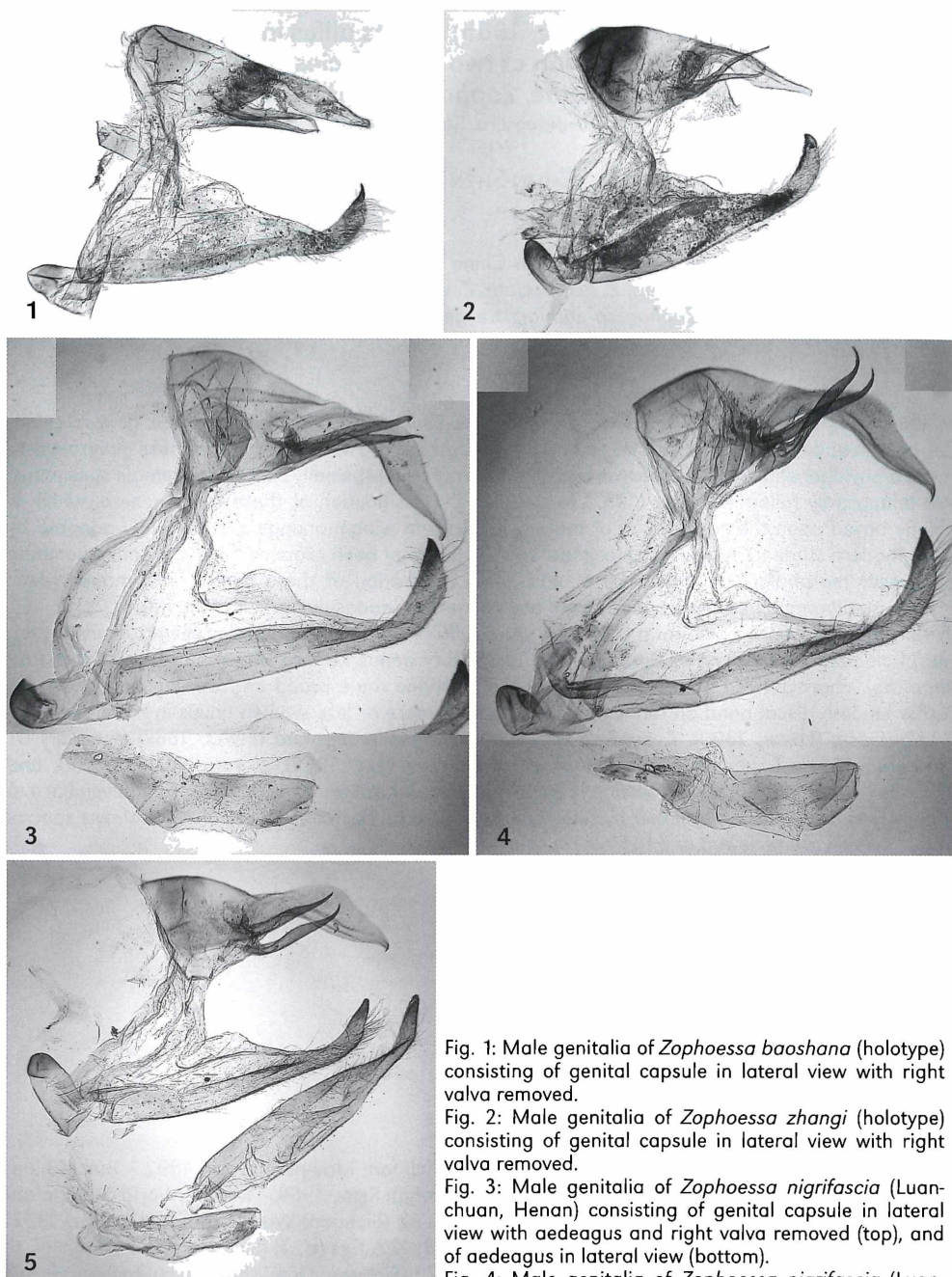


Fig. 1: Male genitalia of *Zophoessa baoshana* (holotype) consisting of genital capsule in lateral view with right valva removed.

Fig. 2: Male genitalia of *Zophoessa zhang* (holotype) consisting of genital capsule in lateral view with right valva removed.

Fig. 3: Male genitalia of *Zophoessa nigrifascia* (Luan-chuan, Henan) consisting of genital capsule in lateral view with aedeagus and right valva removed (top), and of aedeagus in lateral view (bottom).

Fig. 4: Male genitalia of *Zophoessa nigrifascia* (Luan-chuan, Henan) consisting of genital capsule in lateral view with aedeagus and right valva removed (top), and of aedeagus in lateral view (bottom).

Fig. 5: Male genitalia of *Zophoessa wui* (holotype) consisting of genital capsule in lateral view with aedeagus and right valva removed (top), of right valva flattened (center) and of aedeagus in lateral view (bottom).

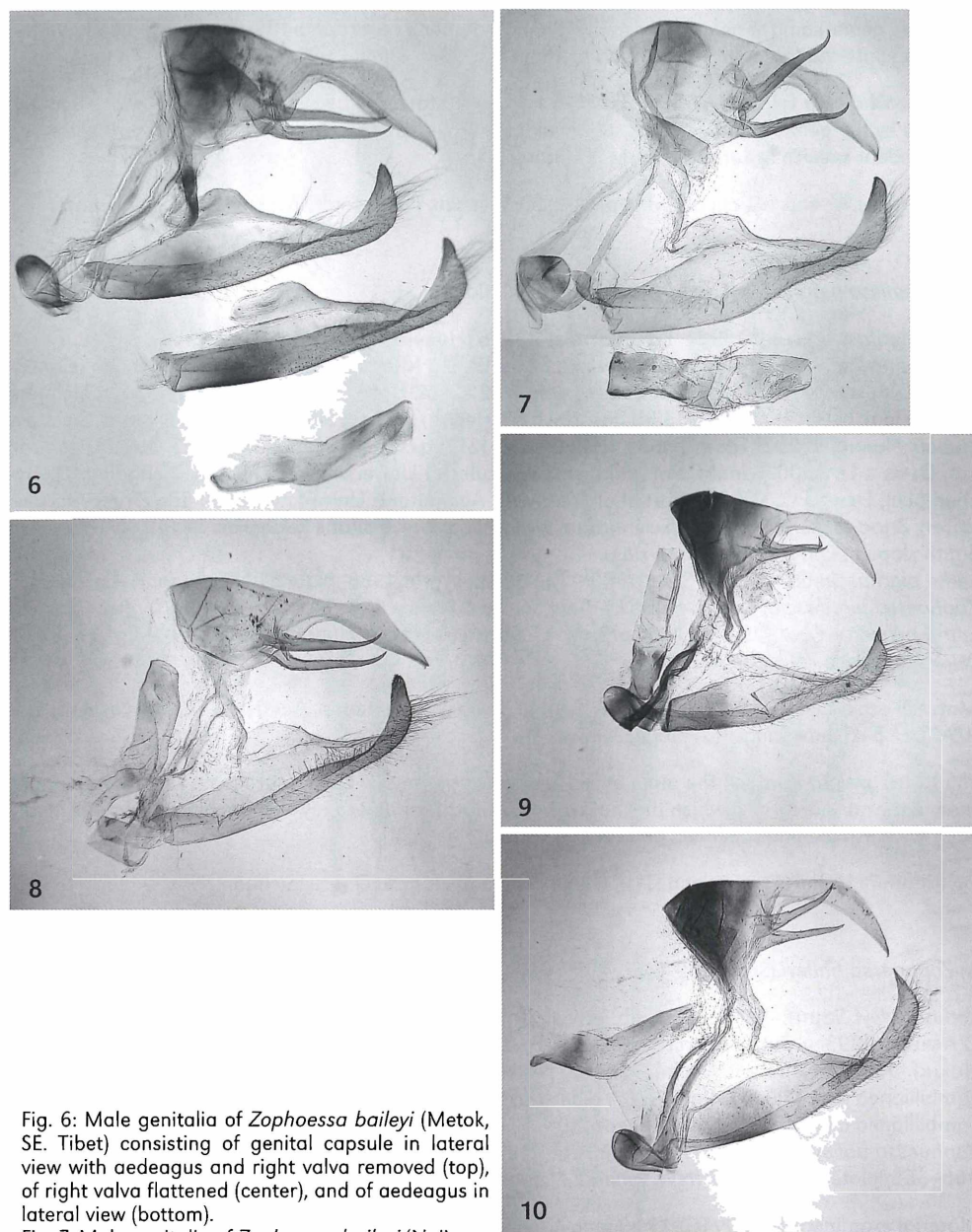


Fig. 6: Male genitalia of *Zophoessa baileyi* (Metok, SE. Tibet) consisting of genital capsule in lateral view with aedeagus and right valva removed (top), of right valva flattened (center), and of aedeagus in lateral view (bottom).

Fig. 7: Male genitalia of *Zophoessa baileyi* (Nujiang, NW Yunnan) consisting of genital capsule in lateral view with aedeagus and right valva removed (top), and of aedeagus in lateral view (bottom).

Fig. 8: Male genitalia of *Zophoessa ocellata* (Pan-zhi-hua, S. Sichuan) consisting of genital capsule in lateral view with right valva removed.

Fig. 9: Male genitalia of *Zophoessa neofasciata* (Yao-jia-ping, Gao-li-gong-shan, NW Yunnan) consisting of genital capsule in lateral view with right valva removed.

Fig. 10: Male genitalia of *Zophoessa lisuae* (holotype) consisting of genital capsule in lateral view with right valva removed.

The male genitalia have been illustrated in the first author's report on butterflies from Nujiang valley. Here we illustrate the male genitalia again (fig. 8).

The taxon *bojonia* FRUHSTORFER, 1913, which had been stated as a subspecies of *Z. ocellata* actually belongs to the genus *Lethe*, without subbasal lines on underside of hindwing. It has been revised as independent species of *Lethe* in recent literature.

Distribution: W. and S. Sichuan (Mou-pin (TL), Omei-shan, Pu-tsu-fong, Wa-ssu-kou, Pan-zhi-hua).

2) *Zophoessa nigrifascia* (LEECH, 1890) (col. pl. XII, fig. 2)

Lethe nigrifascia LEECH, 1890 – Entomologist **23**: 28 (Hubei: Chang-yang); LEECH, 1892 – Butt. China, Japan, and Corea: 33 (Hubei: Chang-yang); SEITZ, 1909 – Macro. World **1**: 85–86, plate 31e (Chang-yang); D'ABRERA, 1993 – Butt. Holarctic region **3**: 122, 124, figs (♂♂, ♀) (Hubei: Chang-yang; Sichuan: Ta-tsien-lou); CHOU et al., 1994: 334, figs (♂♀ from Henan) (Henan, Shaanxi, Gansu, Ningxia, Sichuan, Hubei); HUANG, 1999 – Lambillionea **xcix** (1): 129–131, figs. 1b (♂ genitalia), 2b (♂), 3b (♂) (Henan); LIU, DENG & LI, 2000 – Journal of Southwest Agricultural University **22** (2): 141 (Chongqing: Da-ba-shan); LIU, DENG & LI, 2000 – Journal of Southwest Agricultural University **22** (6): 503 (Three-Gorges: Wu-xi); ZHOU et al., 2001 – Acta Scientiarum Naturalium Universitatis Pekinensis **37** (4): 458 (Shaanxi: South slope of Qin-ling Mts.: Yang-xian).

Lethe nigrifascia ab. *fasciata* SEITZ, 1909 – Macrolep. World **1**: 86, plate 31d (Sichuan: Pu-tsu-fong).

Zophoessa nigrifascia: DE LESSE, 1957 – Ann. Soc. Ent. France **125**: 79.

Lethe ocellata: FANG, 1992 – Iconography of Forest insects in Hunan, China: 1081, fig. 3869 (♂) (W. Hunan), nec POWADE, 1885.

Material examined: 8 ♂♂ (QVTC), LF 30–34 mm, Luan-chuan, Henan, August 1996, leg. Niu Yao; 1 ♂ (IZAS), LF 31.5 mm, Sang-zhi, Hunan, August 1981.

The form *fasciata* in which the male brand is narrower seems to have androconia remarkably longer than in the normal form in which the male brand is broader, but we only examined very few specimens. Here we illustrate one specimen and male genitalia (figs. 3, 4).

Distribution: Hubei (Chang-yang (TL)), Hunan, Henan, Shaanxi, Gansu, Sichuan.

3) *Zophoessa baileyi* (SOUTH, 1913)

Lethe baileyi SOUTH, 1913 – J. Bomb. Nat. Hist. Soc. **22**: 346 (SE. Tibet: Loma, now Cha-yu area); D'ABRERA, 1993 – Butt. Holarctic region **3**: 122, 124, figs (♂, ♀) (NW Yunnan: Tse-kou; SE. Tibet); HUANG, 1998 – Neue ent Nachr. **41**: 251, plate 4, figs. 3d, 4d (SE. Tibet: Metok); HUANG, 1999 – Lambillionea **xcix** (1): 131, figs. 1d (♂ genitalia) 2D (♂), 3D (♂) (SE. Tibet: Metok); HUANG, 2000 – Lambillionea **c** (1): 154 (SE. Tibet: Metok: 80K).

Zophoessa baileyi: DE LESSE, 1957 – Ann. Soc. Ent. France **125**: 79; HUANG, 2002 – Atalanta **33** (3/4): 365–366, plate 21, figs. 3, 7 (NW Yunnan: Nujiang valley: Qi-qi).

Material examined: 1 ♂ (QVTC), LF 29 mm, 1 ♀ (QVTC), LF 29 mm, 60K–80K, Metok, SE. Tibet, 2000 m, June 1996, leg. HUANG HAO; 2 ♂♂ (QVTC), LF 27.5 mm, Qi-qi, Nujiang valley, NW. Yunnan, 2040 m, June 2002, leg. HUANG HAO.

The male genitalia taken from specimens from Tibet (fig. 6) and Yunnan (fig. 7) are illustrated here respectively.

Distribution: NW. Yunnan (Upper portion of Nujiang valley, Upper portion of Mekong valley), SE. Tibet (Cha-yu area (TL), Metok).

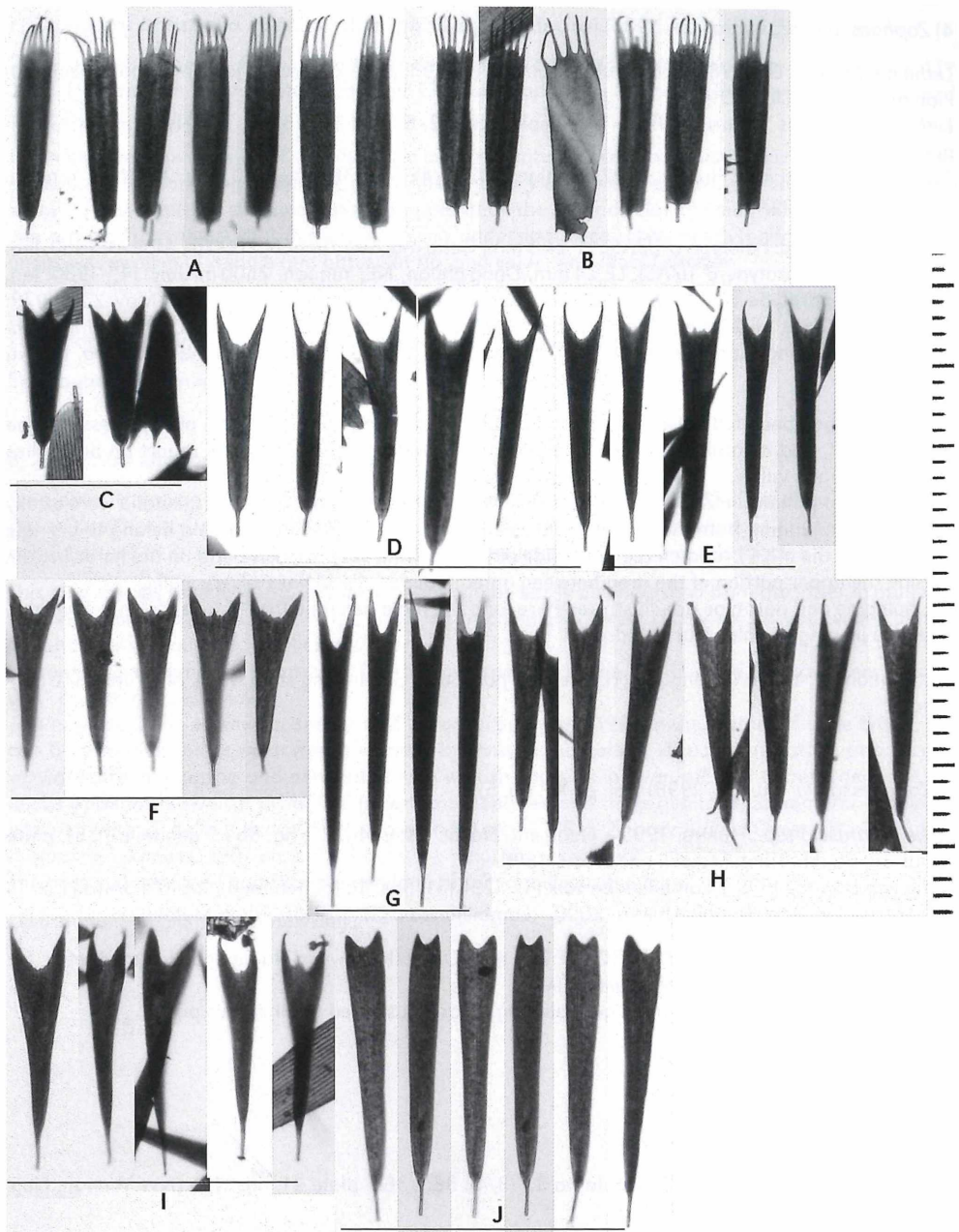


Fig. 11: Androconia of *Zophoessa neofasciata* (A – Yao-jia-ping, NW Yunnan), *Zophoessa lisuae* (B), *Zophoessa ocellata* (C – O-mei, W. Sichuan), *Zophoessa baileyi* (D – Metok, SE. Tibet; E – Qi-qi, Nujiang, NW Yunnan), *Zophoessa wui* (F), *Zophoessa nigrifascia* (G – Luan-chuan, Henan; H – Sang-zhi, Hunan), *Zophoessa baoshana* (I), *Zophoessa zhangii* (J). scale: 0.01 mm

4) *Zophoessa neofasciata* (LEE, 1985) (col. pl. XII, figs. 3, 4)

Lethe neofasciata LEE, 1985 – Entomotaxonomia **7** (3): 193, plate 2, figs. 11, 12 (♂) (Yunnan: Geng-ma, Pian-ma, Lu-shui, Dong-chuan).

Lethe nujiangensis YOSHINO, 1997 – Neo Lepidoptera **2–5**, figs. 34, 35, 58, 60 (NW Yunnan: Gao-li-gong-shan).

Zophoessa neofasciata: HUANG, 2002 – Atalanta **33** (3/4): 365–366, plate 21, figs. 2, 6 (NW. Yunnan: Lu-shui: Yao-jia-ping).

Material examined: holotype ♂ (IZAS), LF 24.5 mm, Geng-ma, SW. Yunnan, 2000 m, May 4th 1980, leg. LI QIAO-SHENG; paratype ♂ (IZAS), LF 24 mm, Dong-chuan, NE. Yunnan, 2500 m, July 14th 1980, leg. DUAN ZHEN; paratype ♂ (IZAS), LF 24 mm, Pian-ma, Lu-shui, W. Yunnan, 3000 m, May 23rd 1979; paratype ♂ (IZAS), LF 23 mm, Pian-ma, 3000 m, May 23rd 1979; 13 ♂♂ (QVTC), LF 24–25 mm, Yao-jia-ping, Gao-li-gong-shan Mts., Lu-shui, W. Yunnan, 2500–3000 m, May and June 2002, leg. HUANG HAO.

This species has been fully discussed and illustrated in the original description of *Zophoessa lisuae* HUANG, 2002, and its male genitalia have been illustrated in the first author's report on butterflies from the Nujiang valley.

All the type specimens in IZAS had their abdomens dissected by LEE but the male genitalia were totally lost. However, judging from the external features, all of the type specimens should belong to a single species, with the male brand on the upperside of the forewing very extensive and on the hindwing underside the upper portion of the area between antediscal and discal lines silvery violet.

The holotype and paratype are illustrated here, and the male genitalia (fig. 9) taken from a specimen from Yao-jia-ping are also illustrated.

Distribution: W. Yunnan (Geng-ma (TL), Central portion of Gao-li-gong-shan Mts.), NE. Yunnan (Dong-chuan).

5) *Zophoessa wui* (HUANG, 1998) (col. pl. XII, fig. 5)

Lethe nigrifascia ssp.: HUANG, 1998 – Neue ent. Nachr. **41**: 224–225, fig. 8b (♂ genitalia), 251, plate 4, figs 3a, 4a (SE. Tibet: Metok), nec LEECH, 1890.

Lethe wui HUANG, 1999 – Lambillionea **xcix** (1): 129–131, figs. 1a (♂ genitalia), 2A (♂), 3A (♂) (SE. Tibet: Metok: Nage to Hanmi); HUANG, 2000 – Lambillionea **c** (1): 155 (SE. Tibet: Metok).

Material examined: holotype ♂ (QVTC), LF 27.5 mm, On path between Na-ge and Han-mi, Metok, SE. Tibet, 2200 m, August 1995, leg. HUANG HAO.

The unique holotype ♂ and its male genitalia (fig. 5) are illustrated again in this paper.

Distribution: SE. Tibet (Metok only).

6) *Zophoessa lisuae* HUANG, 2002

Zophoessa lisuae HUANG, 2002 – Atalanta **33** (3/4): 365–366, plate 21, figs. 1, 5 (NW Yunnan: Nujiang valley: Gong-shan).

Material examined: holotype ♂ (QVTC), LF 27 mm, On road between Kong-dang and Gong-shan, Nujiang valley, NW. Yunnan, ca 2500 m, July 2002, leg. HUANG HAO.

This species has been fully described and figured in the original description. The male genitalia are illustrated here (fig. 10).

Distribution: NW. Yunnan (Gong-shan only).

7) *Zophoessa baoshana* spec. nov. (col. pl. XII, fig. 6)

Type data: Holotype ♂: LF 29.5 mm, Yi-wan-shui Forest Zone, Bao-shan, W. Yunnan, 2840 m, June 13th 1979. Deposited in the Institute of Zoology, Chinese Academy of Sciences. (This new species is named after its type locality.)

This new species is similar to *Z. nigrifascia* in external features, but can be distinguished from the latter in males by the forewing underside discal line smoothly and evenly curved, not bent in space 4, the forewing underside cell spot not apparently paler than the ground color, the hindwing underside discal line remote from the tornal ocellus, hindwing underside discal area nearly uniform yellow-brown, uncus less swollen at middle and obtuse at tip, and valva remarkably shorter.

More detailed diagnostic characters for this new species can be found in the “comparative description” and in the keys below.

The holotype specimen and its male genitalia (fig. 1) are illustrated here.

Distribution: W Yunnan (Bao-shan only).

8) *Zophoessa zhangii* spec. nov. (col. pl. XII, figs. 7, 8)

Type data: Holotype ♂: LF 26 mm, Mi-ya-luo, Li-xian, W. Sichuan, 2780–3300 m, July 7th 1963, leg. ZHANG XUE-ZHONG. Deposited in Institute of Zoology, Chinese Academy of Sciences. (This new species is named after Mr. ZHANG XUE-ZHONG, who collected the unique holotype of this species.)

This new species is similar to *Z. nigrifascia*, but can be easily distinguished from the latter in males by the male brand restricted to veins 1, 2 and 3, androconia of different shape, uncus less swollen at middle and valva remarkably smaller and shorter.

More detailed diagnostic characters for this new species can be found in the “comparative description” and in the keys below.

This new species is somewhat similar to *Z. uemurai* SUGIYAMA, 1994 in the feature of male brand, but can be distinguished at once from the latter by forewing upperside discal band rather smooth and very obscure, not zigzag and associated with whitish spots as in *uemurai*, and in male genitalia the uncus apparently swollen at middle (in external features and male genitalia, *Z. uemurai* should be grouped with *Z. helle* (LEECH, 1891), *Z. procne* (LEECH, 1891), *Z. armandina* (OBERTHÜR, 1881) and *Z. shirozui* SUGIYAMA, 1997 etc.).

The holotype specimen and its male genitalia (fig. 2) are illustrated here.

Distribution: W. Sichuan (Li-xian only).

Comparative description of Chinese species in the *ocellata*-section

The following comparative description is based upon the examination of above-mentioned specimens, the characters on the wings of *tristigmata* are investigated from the photos illustrated by D'ABRERA (1985: 414). There is no reliable difference in eyes, frons, antennae, palpi, and general structures of legs between these Chinese species.

The difference in size and wing-shape is shown in the following table.

species	length of forewing	forewing termen	forewing dorsum vs termen	hindwing termen at vein 4	hindwing shape
<i>lisuae</i>	27 mm	straight	longer	weakly protruded	broad
<i>neofasciata</i>	24–25 mm	convex	longer	weakly protruded	broad
<i>ocellata</i>	27.5–29 mm	concave	longer	moderately protruded	elongated
<i>baileyi</i>	27.5–29 mm	concave	subequal to	strongly protruded	elongated
<i>baoshana</i>	29.5 mm	concave	longer	strongly protruded	broad
<i>wui</i>	27.5 mm	straight	longer	strongly protruded	elongated
<i>nigrifascia</i>	30–34 mm	concave	longer	moderately protruded	broad
<i>zhang</i>	26 mm	concave	longer	weakly protruded	broad
<i>tristigmata</i>	(not investigated)	straight	longer	strongly protruded	elongated

All these species have male brand black and sharply defined in spaces 1b–3 on forewing upperside, and androconia present. The difference is shown in the following table.

species	male brand	androconia
<i>lisuae</i>	broad, conjoined	average 0.13 mm long, brush shaped at tip, less angled at base
<i>neofasciata</i>	broad, conjoined or contiguous	average 0.14 mm long, brush shaped at tip, more angled at base
<i>ocellata</i>	narrow, interrupted	average 0.10 mm long, shallowly trifurcate or bifurcate at tip, with branches acutely pointed
<i>baileyi</i>	broad, conjoined	average 0.15 mm long, deeply bifurcate at tip, with branches acutely pointed
<i>baoshana</i>	narrow, conjoined	average 0.14 mm long, deeply bifurcate at tip, with branches acutely pointed
<i>wui</i>	narrow, interrupted	average 0.12 mm long, deeply bifurcate at tip, with branches acutely pointed
<i>nigrifascia</i>	broad or narrow, conjoined	0.15–0.19 mm long, deeply bifurcate at tip, with branches acutely pointed
<i>zhang</i>	only on veins	average 0.18 mm long, shallowly bifurcate at tip, with branches less pointed
<i>tristigmata</i>	narrow, interrupted	(not investigated)

On the upperside of the forewing, all species are more or less marked with two obscure dark bars in cell, but in this feature no reliable difference is found between species. On upperside of hindwing, all species have a well-marked dark submarginal line and a series of postdiscal black spots, without reliable difference in these features. Upperside ground color is dark brown in all species, shows a little difference in individual or according to the condition of specimens. On upperside of both wings, the difference is shown in the following table.

Comparative description of Chinese species in the *ocellata*-section

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species	forewing upperside discal line	forewing upper- side submarginal line	forewing upper- side subapical pale spots	hindwing upper- side discal line	upperside cili
<i>lisuae</i>	absent	rather clear	present	clear	(totally destroyed in holotype)
<i>neofasciata</i>	absent	rather clear	present	obscure	pale brown, darkened at vein-ends
<i>ocellata</i>	obscure	rather clear	absent	very obscure	grayish, broadly darkened at vein-ends
<i>baileyi</i>	absent	rather clear	present	clear	pale brown, darkened at vein-ends
<i>baoshana</i>	obscure	rather clear	present	very obscure	whitish, narrowly darkened at vein-ends
<i>wui</i>	clearly defined	rather clear	present	clear	whitish, narrowly darkened at vein-ends
<i>nigrifascia</i>	obscure or absent	very obscure	present	obscure	whitish, narrowly darkened at vein-ends
<i>zhang</i>	obscure	very obscure	present	very obscure	whitish, narrowly darkened at vein-ends
<i>tristigmata</i>	clearly defined	rather clear	present	clear	(not investigated)

On the underside of the hindwing all species have a series of postdiscal ocelli, which are pupilled with white and ringed with black, yellow, brown and white outwards. Such ocelli are variable in individual and could not be used for diagnostic characters, the ocellus in space 3 sometimes is more associated with whitish scales in *nigrifascia*, *ocellata* and *wui*, the ocelli in spaces 3–5 of *neofasciata* can be suffused with lilac scales with black rings hardly seen, the outer whitish rings of these species can be conjoined or separated. On the underside of both wings, the difference is shown in the following tables.

species	forewing underside submarginal line	forewing underside discal line
<i>lisuae</i>	pale brown, broad	smoothly and evenly curved inwards, only margined on outer side with pale coloring near costa
<i>neofasciata</i>	pale brown, broad	smoothly and evenly curved inwards, only margined on outer side with pale coloring near costa
<i>ocellata</i>	bright lilac, narrow	bent in spaces 4 and 1b, not margined with pale coloring on outer side
<i>baileyi</i>	pale brown-gray, narrow	a little bent at vein 4 and in space 1b, only margined on outer side with pale coloring near costa
<i>baoshana</i>	pale brown-gray, narrow	smoothly and evenly curved inwards, only margined on outer side with pale coloring near costa
<i>wui</i>	pale yellow-brown, narrow	bent in space 4 and at vein 2, broadly margined on outer side with pale yellowish coloring throughout
<i>nigrifascia</i>	pale brown-gray, narrow	angled in space 4, bent inwards at vein 2, broadly margined on outer side with clear whitish coloring throughout
<i>zhang</i>	pale brown-gray, narrow	bent at veins 4 and 2, broadly margined on outer side with clear whitish coloring throughout
<i>tristigmata</i>	pale yellow-brown, narrow	smoothly and evenly curved above vein 2, only margined on outer side with pale coloring near costa
<i>nigrifascia</i>	brown-gray, paler	paler than ground color, clear whitish
<i>zhang</i>	brown-gray, paler	paler than ground color, clear whitish
<i>tristigmata</i>	yellow-brown, paler	paler than ground color, clear yellowish

species	hindwing underside inner discal line	discal area between inner and outer discal lines on hindwing underside	two subbasal waved pale lines on hindwing underside
<i>lisuae</i>	rather narrow, rather clear	uniform gray-brown, dark	(holotype worn-out)
<i>neofasciata</i>	broad, rather clear	broadly suffused violet at costal half, dark brown at anal half	more remote from each other, clear and narrow, lilac
<i>ocellata</i>	narrow, very faint or rather clear	uniform deep brown	more remote from each other, obscure, pale gray
<i>baileyi</i>	narrow, very clear	nearly uniform gray-brown, only slightly darker at anal half	closer to each other, obscure, pale brown-gray
<i>baoshana</i>	rather narrow, rather clear	nearly uniform pale yellow-brown	more remote from each other, obscure, yellowish
<i>wui</i>	rather narrow, rather clear	paler yellow-brown at costal half, dark yellow-brown at anal half	more remote from each other, clear, yellowish
<i>nigrifascia</i>	rather narrow, rather clear	broadly suffused whitish at costal half, dark brown at anal half	more remote from each other, clear, whitish or lilac
<i>zhangji</i>	rather narrow, rather clear	suffused whitish near costa, dark brown at anal half	more remote from each other, clear, lilac
<i>tristigmata</i>	rather narrow, rather clear	nearly uniform pale yellow-brown	(not investigated)

The difference in male genitalia is shown in the following tables. There is no reliable or remarkable difference in saccus, juxta, appendix angularis and sacculus of valva.

species	uncus
<i>lisuae</i>	rather short, curved downwards at middle, slightly and gradually swollen at middle, acutely pointed at tip, with margins smoothly curved
<i>neofasciata</i>	short, curved downwards at middle, slightly and gradually swollen at middle, acutely pointed at tip, with margins smoothly curved
<i>ocellata</i>	medium in length, bent downwards at middle, moderately and abruptly swollen at middle, less pointed at tip, with margins straighter
<i>baileyi</i>	rather long, bent downwards at middle, moderately and abruptly swollen at middle, less pointed at tip, with margins more waved
<i>baoshana</i>	medium in length, rather straight, slightly and abruptly swollen at middle, less pointed at tip
<i>wui</i>	medium in length, bent downwards at middle, extremely swollen at middle, less pointed at tip, with margins more waved
<i>nigrifascia</i>	long, bent downwards at middle, moderately and abruptly swollen at middle, less pointed at tip, with margins more waved
<i>zhangji</i>	rather short, rather straight, slightly and abruptly swollen at middle, less pointed at tip

species	brachium	aedeagus	length of valva	length of costa of valva
<i>lisuae</i>	almost $\frac{1}{2}$ as long as uncus	rather short	medium	rather short
<i>neofasciata</i>	almost $\frac{1}{2}$ as long as uncus	short	short	short
<i>ocellata</i>	more than $\frac{1}{2}$ as long as uncus	rather short	medium	rather long
<i>baileyi</i>	more than $\frac{1}{2}$ as long as uncus	rather long	rather long	rather long
<i>baoshana</i>	more than $\frac{1}{2}$ as long as uncus	rather short	medium	rather short
<i>wui</i>	more than $\frac{1}{2}$ as long as uncus	medium	medium	rather long
<i>nigrifascia</i>	more than $\frac{1}{2}$ as long as uncus	long	long	long
<i>zhangji</i>	more than $\frac{1}{2}$ as long as uncus	rather short	medium	rather long

species	apex of valva
<i>lisuae</i>	medium in width, acutely pointed at tip
<i>neofasciata</i>	medium in width, acutely pointed at tip
<i>ocellata</i>	medium in width, very obtuse at tip
<i>baileyi</i>	broader and stronger, a little obtuse or slightly pointed at tip
<i>baoshana</i>	medium in width, pointed at tip
<i>wui</i>	thinner, a little obtuse at tip
<i>nigrifascia</i>	broader and stronger, slightly pointed at tip
<i>zhangji</i>	medium in width, curved and slightly pointed at tip

Key to species based on external characters

- 1 Androconia brush shaped at tip 2
 - Androconia bifurcate or trifurcate at tip 3
- 2 Discal area on hindwing underside uniform gray-brown, inner and outer discal lines narrower *lisuae*
 - Discal area on hindwing underside suffused silvery violet at costal half, inner and outer discal lines broader *neofasciata*
- 3 Androconia shallowly bifurcate at tip with branches less pointed, male brand restricted on veins *zhangji*
 - Androconia usually deeply bifurcate at tip with branches always acutely pointed, male brand appeared between veins. 4
- 4 Androconia not longer than 0.10 mm and usually trifurcate at tip, forewing underside submarginal line bright lilac, forewing underside discal line not margined on outer side with pale coloring *ocellata*
 - Androconia longer than 0.10 mm and usually bifurcate at tip, forewing underside submarginal line not lilac, forewing underside discal line margined with pale coloring on outer side near costa 5
- 5 Forewing underside discal line smoothly and evenly curved inwards. *baoshana*
 - Forewing underside discal line angled or bent in space 4 6
- 6 Hindwing underside outer discal line remote from tornal ocellus, underside ground color more yellowish, male brand interrupted, androconia always shorter than 0.13 mm *wui*
 - Hindwing underside outer discal line close to tornal ocellus, underside ground color more brownish, male brand conjoined, androconia always longer than 0.13 mm 7
- 7 Wings elongated, hindwing underside outer discal line narrower and clearer, nearly straight to vein 3, hindwing underside discal area nearly uniform gray-brown *baileyi*
 - Wings broad, hindwing underside outer discal line broader and obscurer, bent in space 4, hindwing underside discal area suffused whitish at costal half. *nigrifascia*

Key to species based on male genitalia

- 1 Uncus gradually swollen at middle and acutely pointed, brachium shorter 2
 - Uncus abruptly swollen at middle and less pointed, brachium longer 3
- 2 Valva and uncus remarkably longer *lisuae*
 - Valva and uncus remarkably shorter. *neofasciata*
- 3 Uncus rather straight, slightly swollen at middle 4
 - Uncus downcurved, remarkably swollen at middle. 5
- 4 Apex of valva thinner near extreme tip *baoshana*
 - Apex of valva broader near extreme tip *zhangji*

5	Uncus more swollen, valva weaker at tip	<i>wui</i>
	Uncus less swollen, valva stronger at tip	6
6	Uncus with margins straighter, apex of valva very obtuse	<i>ocellata</i>
	– Uncus with margins waved, apex of valva more pointed	7
7	Uncus and valva remarkably longer, apex of valva more pointed	<i>nigrifascia</i>
	Uncus and valva remarkably shorter, apex of valva less pointed	<i>baileyi</i>

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addresses of the authors

HAO HUANG
Qingdao Vocational and Technical College
266555, P.R. CHINA
e-mail: cmdhhxx@hotmail.com

CHUN-SHENG WU
Institute of Zoology
Chinese Academy of Sciences
Beijing, P.R. CHINA
e-mail: wucs@panda.ioz.ac.cn

FENG YUAN
Beijing Natural History Museum
Beijing, P.R. CHINA
e-mail: yf.dragonfly@163.com

Colour plate XII

HUANG, H., WU, CH.-SH. & F. YANG: *Zophoessa ocellata* (POUJADE, 1885) and its allies in China with the description of two new species – A review of the genera *Lethe*, *Zophoessa* and *Neope* in China 1. (Lepidoptera, Rhopalocera). Neue Entomologische Nachrichten 55: 145–158.

- Fig. 1: *Zophoessa ocellata* ♂ (Omei, W. Sichuan) upperside (left half) and underside (right half).
Fig. 2: *Zophoessa nigrifascia* ♂ (f. *fasciata*, Luan-chuan, Henan province) upperside (left half) and underside (right half).
Fig. 3: *Zophoessa neofasciata* holotype ♂ (Geng-ma, SW Yunnan) upperside (right half) and underside (left half).
Fig. 4: *Zophoessa neofasciata* paratype ♂ (Dong-chuan, NE Yunnan) upperside (left half) and underside (right half).
Fig. 5: *Zophoessa wui* holotype ♂ (Metok, SE. Tibet) upperside (left half) and underside (right half).
Fig. 6: *Zophoessa baoshana* spec. nov. holotype ♂ (Bao-shan, W. Yunnan) upperside (left half) and underside (right half).
Fig. 7: *Zophoessa zhangji* spec. nov. holotype ♂ (Li-xian, W. Sichuan) upperside.
Fig. 8: *Zophoessa zhangji* spec. nov. holotype ♂ (Li-xian, W. Sichuan) underside.

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